

are clean copies of the claims as amended — all presented in numerical order.

Marked-up copies of the amended and new claims appear following the signature page. (In that later presentation, for the Examiner's convenience all the claims, including the new claim, have been placed in the claim sequence at the points where desired — in particular, with claim 52 after claim 50.)

Sub
p2

8. (twice amended) An incremental printer for forming
desired images on a printing medium, by construction from
individual marks in arrays; said printer comprising:
at least one colorant-placing module for marking on
such medium;
a first sensor, mounted to said carriage, for determin-
ing condition or relative positioning of the at least one
colorant-placing module;
a second sensor for making color measurements of mark
arrays formed on such medium by the at least one module;
and
a mechanism for advancing the second sensor into a
measurement position at only low velocity and only low
positioning accuracy needed for roughly centering the sec-
ond sensor over successive colorimetric test-pattern pat-
ches in turn;
wherein said low velocity is on the order of 3 cm (1
inch) per second, or less; and said low accuracy is on the
order of 1/10 the dimension of an individual mark, or coar-
ser.

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1 9. (amended) An incremental printer for forming desired
2 images on a printing medium, by construction from individu-
3 al marks in arrays; said printer comprising:
4 at least one colorant-placing module for marking on
5 such medium;
6 a colorant carriage for holding and moving the modules
7 over such medium;
8 a motor and drive train for propelling said carriage
9 over such medium;
10 a first sensor, mounted to said carriage, for determin-
11 ing condition or relative positioning of the at least one
12 colorant-placing module;
13 a second sensor for making color measurements of mark
14 arrays formed on such medium by the at least one module;
15 an auxiliary carriage for holding and moving the second
16 sensor over such medium; said auxiliary carriage being
17 selectively attachable to and detachable from the colorant
18 carriage, but having substantially no drive train other
19 than that of the colorant-carriage drive train;
20 means for controlling the motor and drive train, while
21 the carriages are attached, to position the colorant car-
22 riage and thereby the auxiliary carriage for substantially
23 stationary measurement of such a mark array on such medium;
24 and
25 a mechanism for advancing a component associated with
26 the second sensor into contact with such medium.

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1 14. (twice amended) An incremental printer for forming
2 desired images on a printing medium, by construction from
3 individual marks in arrays; said printer comprising:
4 at least one colorant-placing module for marking on
5 such medium;
6 a first carriage for holding and moving the colorant-
7 placing module over such medium; and
8 a second carriage, discrete from the first carriage,
9 for use in refining the quality of images produced by the
10 printer;
11 wherein the second carriage scans a sensor over such
12 medium at only low velocity and only low positioning accu-
13 racy needed for roughly centering the second sensor over
14 successive colorimetric test-pattern patches in turn; and
15 said low velocity is on the order of 3 cm (1 inch) per
16 second, or less; and said low accuracy is on the order of
17 1/10 the dimension of an individual mark, or coarser.

1 15. (amended) An incremental printer for forming desired
2 images on a printing medium, by construction from individu-
3 al marks in arrays; said printer comprising:
4 at least one colorant-placing module for marking on
5 such medium;
6 a first carriage for holding and moving the colorant-
7 placing module over such medium; and
8 a second carriage, discrete from the first carriage,
9 for use in refining the quality of images produced by the
10 printer;
11 wherein the second carriage scans a sensor over such
12 medium at only low velocity and only low positioning accu-
13 racy needed for roughly centering the second sensor over
14 successive colorimetric test-pattern patches in turn;
15 wherein:
16 the sensor is a sensor for making color measurements of
17 marks formed on such medium by the at least one colorant-
18 placing module; and
19 the second carriage also holds at least one reference
20 target for presentation to the sensor.

1 17. (amended) An incremental printer for forming desired
2 images on a printing medium, by construction from individu-
3 al marks in arrays; said printer comprising:
4 at least one colorant-placing module for marking on
5 such medium;
6 a first carriage for holding and moving the colorant-
7 placing module over such medium; and
8 a second carriage, discrete from the first carriage,
9 for use in refining the quality of images produced by the
10 printer;
11 wherein the second carriage scans a sensor over such
12 medium at only low velocity and only low positioning accu-
13 racy needed for roughly centering the second sensor over
14 successive colorimetric test-pattern patches in turn; fur-
15 ther comprising:
16 a hood generally surrounding the sensor laterally with
17 respect to a sensing direction; and
18 a mechanism for advancing the hood along the sensing
19 direction toward such medium.

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(Contd)

1 18. (amended) An incremental printer for forming desired
2 images on a printing medium, by construction from individu-
3 al marks in arrays; said printer comprising:
4 at least one colorant-placing module for marking on
5 such medium;
6 a first carriage for holding and moving the colorant-
7 placing module over such medium; and
8 a second carriage, discrete from the first carriage,
9 for use in refining the quality of images produced by the
10 printer;
11 wherein the second carriage scans a sensor over such
12 medium at only low velocity and only low positioning accu-
13 racy needed for roughly centering the second sensor over
14 successive colorimetric test-pattern patches in turn; fur-
15 ther comprising:
16 a mechanism for advancing a component associated with
17 the sensor into contact with such medium.

Sub P0

1 50. (amended) the printer of claim 8, wherein:
2 the low positioning accuracy is on the order of 0.5 mm
3 (1/50 inch), or coarser.

Sub P0

1 51. (amended) The printer of claim 14, wherein:
2 the low positioning accuracy is on the order of 0.5 mm
3 (1/50 inch), or coarser.

52. (new; to follow claim 50) An incremental printer for forming desired images on a printing medium, by construction from individual marks in arrays; said printer comprising:

- at least one colorant-placing module for marking on such medium;
- a colorant carriage for holding and moving the modules over such medium;
- a motor and drive train for propelling said carriage over such medium;
- a first sensor, mounted to said carriage, for determining condition or relative positioning of the at least one colorant-placing module;
- a second sensor for making color measurements of mark arrays formed on such medium by the at least one module;
- an auxiliary carriage for holding and moving the second sensor over such medium; said auxiliary carriage being selectively attachable to and detachable from the colorant carriage, but having substantially no drive train other than that of the colorant-carriage drive train; and
- a mechanism for advancing a component associated with the second sensor into contact with such medium.

REMARKS

Applicants thank Examiner Julian D. Huffman for having allowed twenty-five claims and for having indicated that five others would be allowed if suitably amended. Applicants have